SSEL

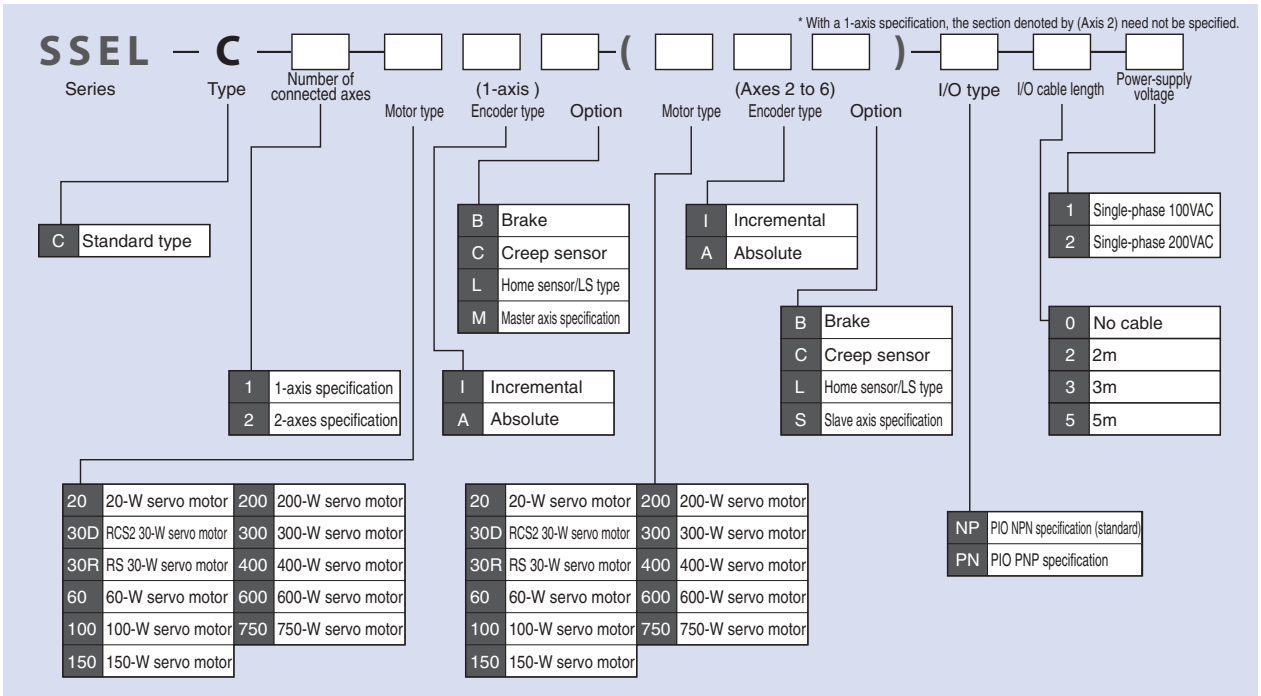
RCS2 series
Program controller

Type List

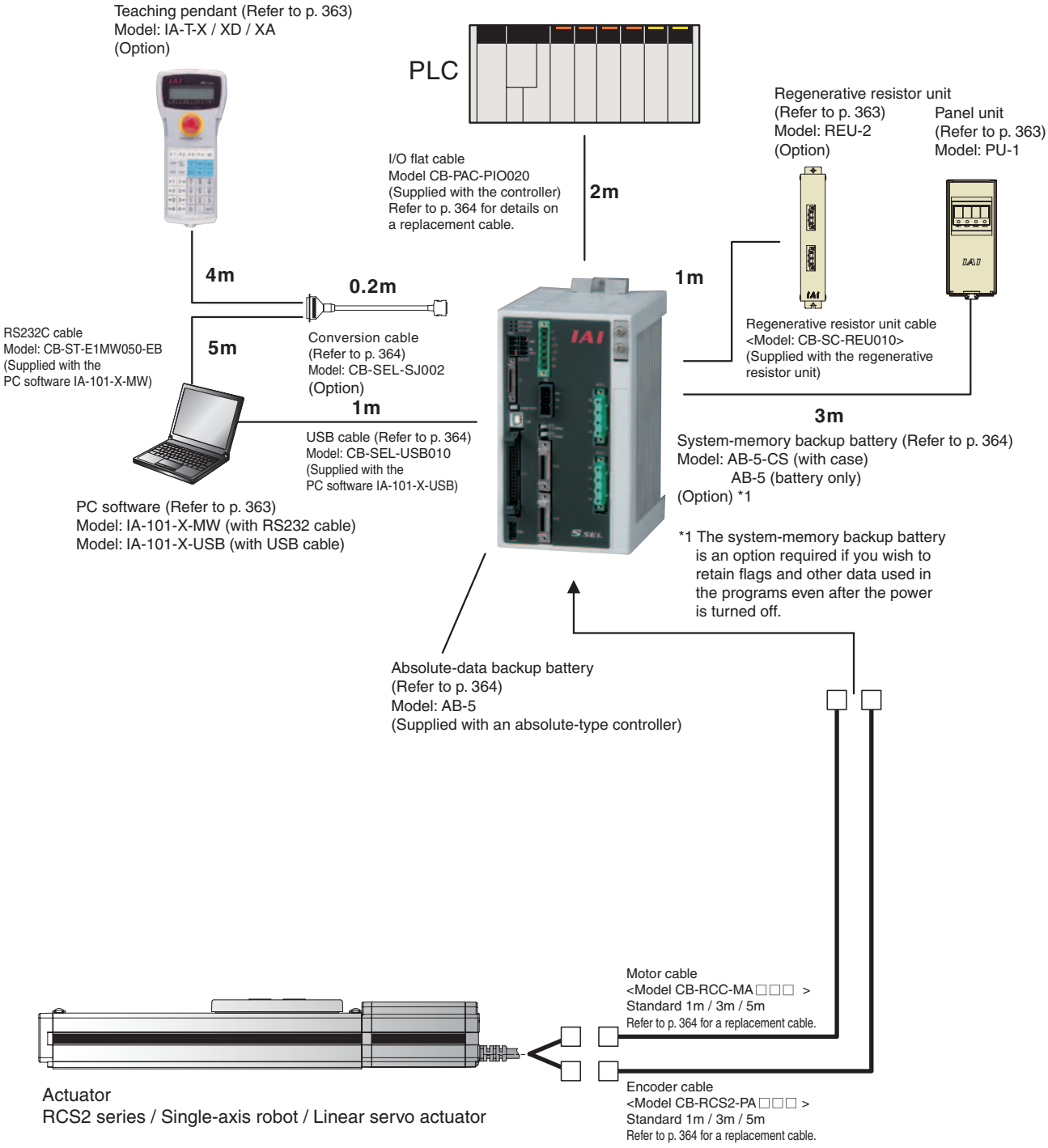
Program controller capable of operating RCS2 series actuator. Various control functions are combined into a single unit.

Type	C	
Name	Program mode	Positioner mode
External view		
Description	Both actuator operation and communication with external equipment can be handled by a single controller. When two axes are connected, arc interpolation and path operation can be performed.	Up to 1,500 positioning points are supported. Push-motion operation and teaching operation are also possible.
Number of position points	1,500 positions	

Model



System Configuration



I/O Specifications

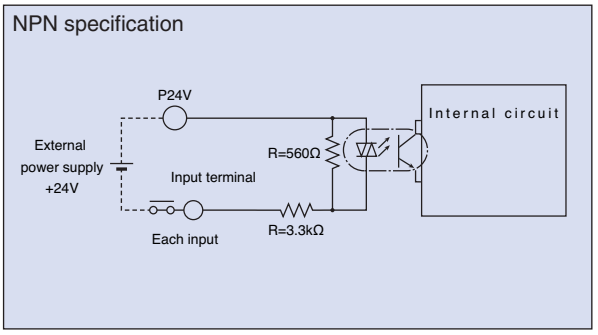
■ Input Part External input specifications

Item	Specification
Input voltage	DC24V 10%
Input current	7mA/1circuit
ON/OFF voltage	ON voltage (Min.) NPN:DC16V/PNP:DC8V OFF voltage (Max.) NPN:DC5V/PNP:DC19V
Insulation method	Photocoupler

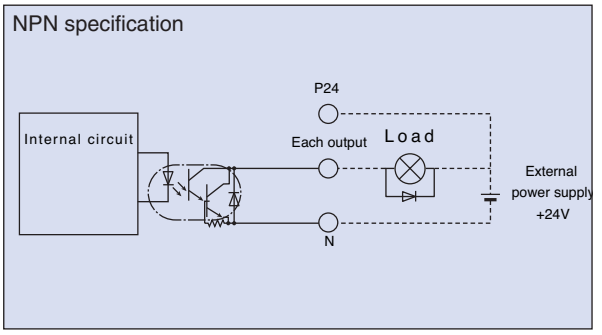
■ Output Part External output specifications.

Item	Specification
Load voltage	DC24V
Max. load current	1mA/point 400mA/8point total
Leak current	Max. 0.1mA/1point
Insulation method	Photocoupler

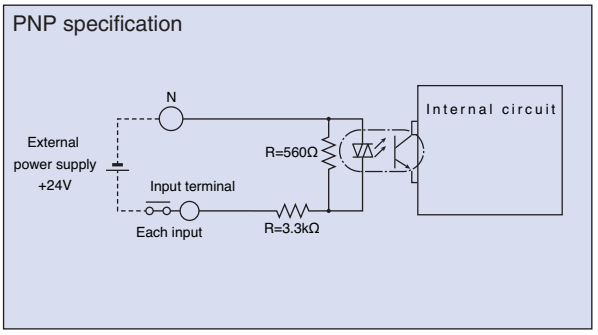
NPN specification



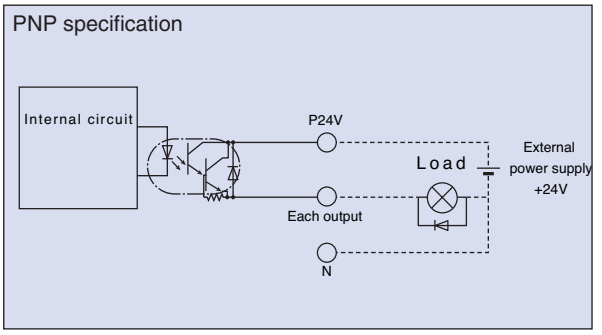
NPN specification



PNP specification



PNP specification



Explanation of I/O Functions

The SSEL controller lets you select either the “program mode” in which the actuator is operated by programs input to the controller, or the “positioner mode” in which the actuator moves to the positions specified by PLC signals received from the host. The positioner mode provides the following five input patterns each supporting different applications.

■ Controller Functions by Type

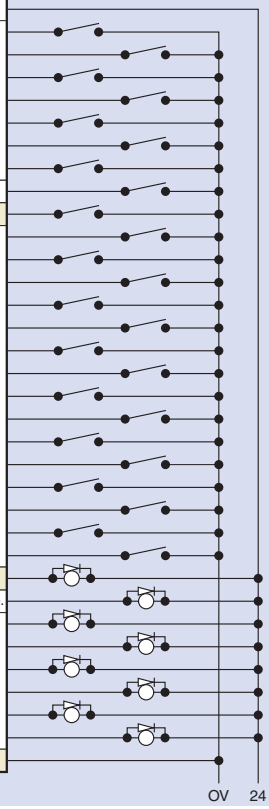
Operation mode		Features
Program mode		Various operations including linear/arc interpolation operation, path operation ideal for coating processes, etc., arch-motion operation and palletizing operation can be performed using the Super SEL language that lets you program complex control actions using simple commands.
Positioner mode	Standard mode	A basic operation mode in which a position number is specified and then a start signal is input to start operation. Push-motion operation and 2-axis linear interpolation operation are also supported.
	Product-type switchover mode	Multiple works of the same shape with slightly different hole positions can be handled using movement commands to the same position numbers by simply changing the product type number.
	2-axis independent mode	With a 2-axis controller, each axis can be commanded and operated separately.
	Teaching mode	The slider (rod) can be moved via an external signal to store the achieved position as position data.
	DS-S-C1 compatible mode	If you were using a DS-S-C1 controller before, you can replace it with a PSEL controller without having to change the host programs. * This mode does not ensure actuator compatibility.

Explanation of I/O Functions

Program mode

Pin number	Category	Port number	Program mode	Function
1A	P24		24-V input	Connect 24V.
1B	Input	016	Program No. 1 selection	These signals are used to select the program to be started. (BCD input using ports 016 to 022)
2A		017	Program No. 2 selection	
2B		018	Program No. 4 selection	
3A		019	Program No. 8 selection	
3B		020	Program No. 10 selection	
4A		021	Program No. 20 selection	
4B		022	Program No. 40 selection	
5A		023	CPU reset	This signal is used to reset the system to create the same condition after power reconnection.
5B		000	Start	This signal is used to start the program selected by port Nos. 016 to 022.
6A		001	General-purpose input	These signals are used with a program command to wait for external input.
6B		002	General-purpose input	
7A		003	General-purpose input	
7B		004	General-purpose input	
8A		005	General-purpose input	
8B		006	General-purpose input	
9A		007	General-purpose input	
9B		008	General-purpose input	
10A		009	General-purpose input	
10B		010	General-purpose input	
11A		011	General-purpose input	
11B		012	General-purpose input	
12A		013	General-purpose input	
12B		014	General-purpose input	
13A		015	General-purpose input	
13B	Output	300	Alarm	This signal is output upon an alarm. (Contact B)
14A		301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	General-purpose output	These signals can be turned ON/OFF freely using program commands.
15A		303	General-purpose output	
15B		304	General-purpose output	
16A		305	General-purpose output	
16B		306	General-purpose output	
17A		307	General-purpose output	
17B	N		0-V input	Connect 0V.

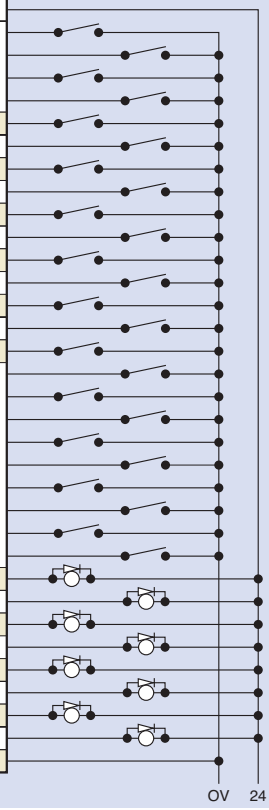
Wiring diagram



Positioner, Standard Mode

Pin number	Category	Port number	Positioner, standard mode	Function
1A	P24		24-V input	Connect 24V.
1B	Input	016	Position input 10	Port Nos. 007 to 019 are used to specify a target position number. Numbers can be specified either as BCD or binary codes.
2A		017	Position input 11	
2B		018	Position input 12	
3A		019	Position input 13	
3B		020	–	–
4A		021	–	–
4B		022	–	–
5A		023	Error reset	This signal is used to reset minor errors. (The power must be reconnected to reset serious errors.)
5B		000	Start	This signal is used to cause the actuator to start moving to the selected position.
6A		001	Home return	This signal is used to perform home return.
6B		002	Servo ON	This signal is used to switch the servo on/off.
7A		003	Push	This signal is used to perform push-motion operation.
7B		004	Pause	When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
8A		005	Cancellation	When this signal is turned OFF while the actuator is moving, the actuator will stop and the remaining operation will be cancelled.
8B		006	Interpolation setting	With a 2-axis specification, turning ON this signal causes the actuator to move via linear interpolation.
9A		007	Position input 1	Port Nos. 007 to 019 are used to specify a target position number. Numbers can be specified either as BCD or binary codes.
9B		008	Position input 2	
10A		009	Position input 3	
10B		010	Position input 4	
11A		011	Position input 5	
11B		012	Position input 6	
12A		013	Position input 7	
12B		014	Position input 8	
13A		015	Position input 9	
13B	Output	300	Alarm	This signal is output upon an alarm. (Contact B)
14A		301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	Position complete	This signal is output upon completion of movement to the specified position.
15A		303	Home return complete	This signal is output upon completion of home return.
15B		304	Servo ON output	This signal is output while the servo is on.
16A		305	Push motion complete	This signal is output upon completion of push-motion operation.
16B		306	System-memory backup battery error	This signal is output when the system-memory backup battery voltage has dropped (to the warning level).
17A		307	Absolute-data backup battery error	This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).
17B	N		0-V input	Connect 0V.

Wiring diagram

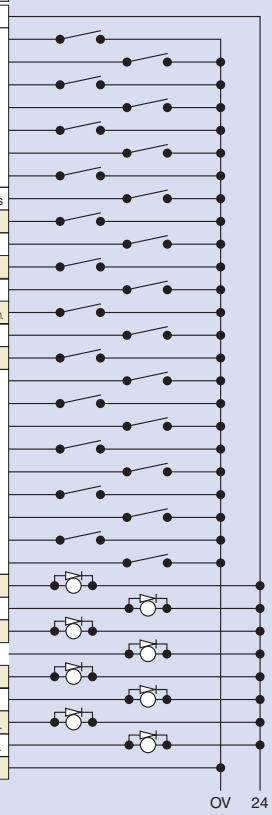


Explanation of I/O Functions

Positioner, Product-Type Switchover Mode

Pin number	Category	Port number	Positioner	Function
1A	P24		24-V input	Connect 24V.
1B	Input	016	Position/product type input 10	Port Nos. 007 to 022 are used to specify a target position number and a product type number. Position numbers and product type numbers are assigned by parameter settings. Numbers can be specified either as BCD or binary codes.
2A		017	Position/product type input 11	
2B		018	Position/product type input 12	
3A		019	Position/product type input 13	
3B		020	Position/product type input 14	
4A		021	Position/product type input 15	
4B		022	Position/product type input 16	
5A		023	Error reset	This signal is used to reset minor errors. (The power must be reconnected to reset serious errors
5B		000	Start	This signal is used to cause the actuator to start moving to the selected position.
6A		001	Home return	This signal is used to perform home return.
6B		002	Servo ON	This signal is used to switch the servo on/off.
7A		003	Push	This signal is used to perform push-motion operation.
7B		004	Pause	When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
8A		005	Cancellation	When this signal is turned OFF while the actuator is moving, the actuator will stop and the remaining operation will be cancelled.
8B		006	Interpolation setting	With a 2-axis specification, turning ON this signal causes the actuator to move via linear interpolation.
9A		007	Position/product type input 1	Port Nos. 007 to 022 are used to specify a target position number and a product type number. Position numbers and product type numbers are assigned by parameter settings. Numbers can be specified either as BCD or binary codes.
9B		008	Position/product type input 2	
10A		009	Position/product type input 3	
10B		010	Position/product type input 4	
11A		011	Position/product type input 5	
11B		012	Position/product type input 6	
12A		013	Position/product type input 7	
12B		014	Position/product type input 8	
13A		015	Position/product type input 9	
13B	Output	300	Alarm	This signal is output upon an alarm. (Contact B)
14A		301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	Position complete	This signal is output upon completion of movement to the specified position.
15A		303	Home return complete	This signal is output upon completion of home return.
15B		304	Servo ON output	This signal is output while the servo is on.
16A		305	Push motion complete	This signal is output upon completion of push-motion operation.
16B		306	System-memory backup battery error	This signal is output when the system-memory backup battery voltage has dropped (to the warning level).
17A		307	Absolute-data backup battery error	This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).
17B	N		0-V input	Connect 0V.

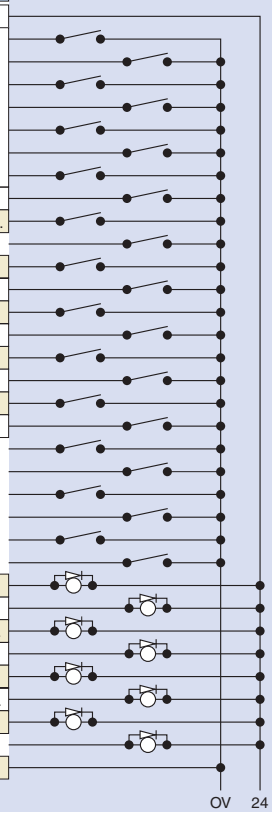
Wiring diagram



Positioner, 2-axis Independent Mode

Pin number	Category	Port number	Positioner	Function
1A	P24		24-V input	Connect 24V.
1B	Input	016	Position input 10	Port Nos. 010 to 022 are used to specify a target position number. Position numbers for axis 1 and those for axis 2 are assigned by parameter settings. Numbers can be specified either as BCD or binary codes.
2A		017	Position input 11	
2B		018	Position input 12	
3A		019	Position input 13	
3B		020	Position input 14	
4A		021	Position input 15	
4B		022	Position input 16	
5A		023	Error reset	This signal is used to reset minor errors. (The power must be reconnected to reset serious errors.)
5B		000	Start 1	This signal is used to cause the actuator to start moving to the selected position.
6A		001	Home return 1	This signal is used to move axis 1 to the home.
6B		002	Servo ON 1	This signal is used to switch on/off the servo for axis 1.
7A		003	Pause 1	When this signal is turned OFF while axis 1 is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
7B		004	Cancellation 1	This signal is used to cancel the movement of axis 1.
8A		005	Start 2	This signal is used to cause axis 2 to start moving to the selected position.
8B		006	Home return 2	This signal is used to move axis 2 to the home.
9A		007	Servo ON 2	This signal is used to switch on/off the servo for axis 2.
9B		008	Pause 2	When this signal is turned OFF while axis 2 is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
10A		009	Cancellation 2	This signal is used to cancel the movement of axis 2.
10B		010	Position input 1	Port Nos. 010 to 022 are used to specify a target position number. Position numbers for axis 1 and those for axis 2 are assigned by parameter settings. Numbers can be specified either as BCD or binary codes.
11A		011	Position input 2	
11B		012	Position input 3	
12A		013	Position input 4	
12B		014	Position input 5	
13A		015	Position input 6	
13B	Output	300	Alarm	This signal is output upon an alarm. (Contact B)
14A		301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	Position complete 1	This signal is output upon completion of movement of axis 1 to the specified position.
15A		303	Home return complete 1	This signal is output upon completion of home return of axis 1.
15B		304	Servo ON output 1	This signal is output while the servo for axis 1 is on.
16A		305	Position complete 2	This signal is output upon completion of movement of axis 2 to the specified position.
16B		306	Home return complete 2	This signal is output upon completion of home return of axis 2.
17A		307	Servo ON output 2	This signal is output while the servo for axis 2 is on.
17B	N		0-V input	Connect 0V.

Wiring diagram

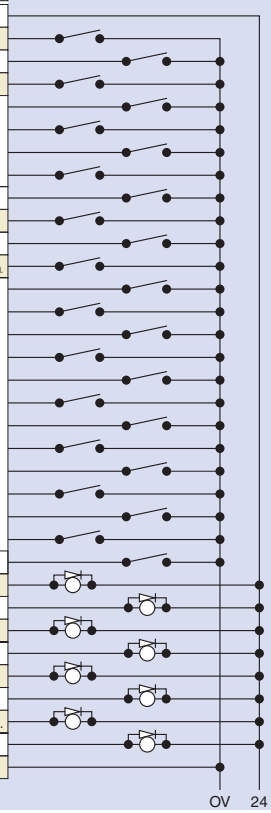


Explanation of I/O Functions

Positioner, Teaching Mode

Pin number	Category	Port number	Positioner	Function
1A	P24		24-V input	Connect 24V.
1B	Input	016	Axis 1 JOG-	While this signal is input, axis 1 moves in the negative direction.
2A		017	Axis 2 JOG+	While this signal is input, axis 2 moves in the positive direction.
2B		018	Axis 2 JOG-	While this signal is input, axis 2 moves in the negative direction.
3A		019	Inching specification (0.01mm)	These signals are used to specify an inching travel distance. (The travel distance is the sum of values specified by port Nos. 019 to 022.)
3B		020	Inching specification (0.1mm)	
4A		021	Inching specification (0.5mm)	
4B		022	Inching specification (1mm)	
5A		023	Error reset	This signal is used to reset minor errors. (The power must be reconnected to reset serious errors.)
5B		000	Start	This signal is used to cause the actuator to start moving to the selected position.
6A		001	Servo ON	This signal is used to switch the servo on/off.
6B		002	Pause	When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
7A		003	Position input 1	Port Nos. 003 to 013 are used to specify a target position number and a position number under which to input the current position. When the teaching mode specification signal at port No. 014 is ON, the current value will be written under the specified position number upon turning ON of the start signal at port No. 000.
7B		004	Position input 2	
8A		005	Position input 3	
8B		006	Position input 4	
9A		007	Position input 5	
9B		008	Position input 6	
10A		009	Position input 7	
10B		010	Position input 8	
11A		011	Position input 9	
11B		012	Position input 10	
12A		013	Position input 11	
12B		014	Teaching mode specification	
13A		015	Axis 1 JOG+	While this signal is input, axis 1 moves in the positive direction.
13B	Output	300	Alarm	This signal is output upon an alarm. (Contact B)
14A		301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	Position complete	This signal is output upon completion of movement to the specified position.
15A		303	Home return complete	This signal is output upon completion of home return.
15B		304	Servo ON output	This signal is output while the servo is on.
16A		305	-	-
16B		306	System-memory backup battery error	This signal is output when the system-memory backup battery voltage has dropped (to the warning level).
17A		307	Absolute-data backup battery error	This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).
17B	N		0-V input	Connect 0V.

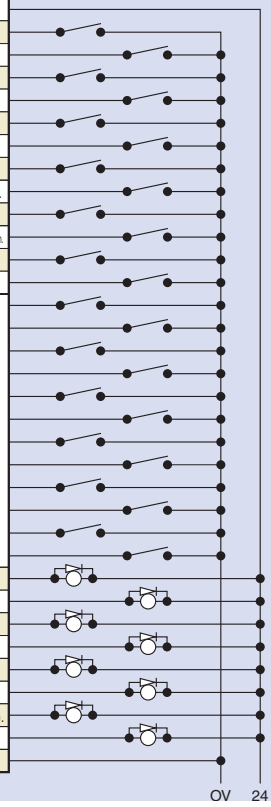
Wiring diagram



Positioner, DS-S-C1 Compatible Mode

Pin number	Category	Port number	Positioner	Function
1A	P24		24-V input	Connect 24V.
1B	Input	016	Position No.1000	(Same as port Nos. 004 to 015)
2A		017	–	–
2B		018	–	–
3A		019	–	–
3B		020	–	–
4A		021	–	–
4B		022	–	–
5A		023	CPU reset	This signal is used to reset the system to create the same condition after power reconnection.
5B		000	Start	This signal is used to cause the actuator to start moving to the selected position.T
6A		001	Hold (pause)	When this signal is turned OFF while the actuator is moving, the actuator will pause. When the signal is turned ON, the actuator will resume and complete the remaining operation.
6B		002	Cancellation	When this signal is turned OFF while the actuator is moving, the actuator will stop and the remaining operation will be cancelled.
7A		003	Interpolation setting	With a 2-axis specification, turning ON this signal causes the actuator to move via linear interpolation.
7B		004	Position No.1	Port Nos. 004 to 016 are used to specify a target position number. Numbers can be specified either as BCD or binary codes.
8A		005	Position No.2	
8B		006	Position No.4	
9A		007	Position No.8	
9B		008	Position No.10	
10A		009	Position No.20	
10B		010	Position No.40	
11A		011	Position No.80	
11B		012	Position No.100	
12A		013	Position No.200	
12B		014	Position No.400	
13A		015	Position No.800	
13B	Output	300	Alarm	This signal is output upon an alarm. (Contact A)
14A		301	Ready	This signal is output once the controller has started properly and entered a ready state.
14B		302	Position complete	This signal is output upon completion of movement to the specified position.
15A		303	–	–
15B		304	–	–
16A		305	–	–
16B		306	System-memory backup battery error	This signal is output when the system-memory backup battery voltage has dropped (to the warning level).
17A		307	Absolute-data backup battery error	This signal is output when the absolute-data backup battery voltage has dropped (to the warning level).
17B	N		0-V input	Connect 0V.

Wiring diagram

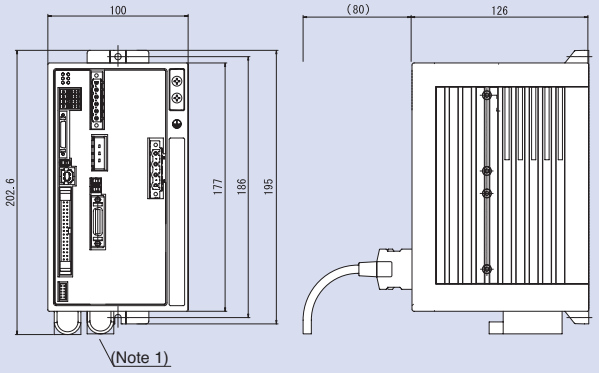


Specification Table

	Item	Specification	
Basic specifications	Connectable actuators	RCS2 series actuator / Single-axis robot / Linear servo actuator	
	Input power supply	Single-phase 100VAC ± 10%	Single-phase 200VAC ± 10%
	Power-supply capacity	1,660VA max. (400W, 2 axes operated)	
	Dielectric strength voltage	500VDC, 10MΩ or above	
	Breakdown resistance	500VAC, 1 minute	
	Rush current	30A max.	
	Vibration resistance	XYZ directions	One-side amplitude 0.035 mm (continuous), 0.075 (intermittent) 4.9m/s2 (continuous), 9.8m/s2 (intermittent)
Control specifications	Number of controlled axes	1 axis/2 axes	
	Maximum total output of connected axes	400W	800W
	Position detection method	Incremental encoder / Absolute encoder	
	Speed setting	From 1mm/s. The maximum limit varies depending on the actuator.	
	Acceleration setting	From 0.01G. The maximum limit varies depending on the actuator.	
	Operation method	Program operation / Positioner operation (switchable)	
Program	Programming language	Super SEL language	
	Number of programs	64 programs	
	Number of program steps	2,000 steps	
	Number of multi-tasking programs	8 programs	
	Number of positioning points	1,500 points	
	Data storage device	Flash ROM (A system-memory backup battery can be added as an option)	
	Data input method	Teaching pendant or PC software	
Communication	Number of I/O points	24 input points / 8 output points (NPN or PNP selectable)	
	I/O power supply	Externally supplied 24VDC ± 10%	
	PIO cable	CB-DS-PIO□□□(supplied with the controller)	
	Serial communication function	RS232C (D-sub, half-pitch connector) / USB connector	
	Field network	(To be supported in the future)	
	Motor cable	CB-RCC-MA□□□(20m max.)	
	Encoder cable	CB-RCS2-PA□□□(20m max.)	
General specifications	Protective functions	Motor overcurrent, motor driver temperature check, overload check, encoder open-circuit check, soft limit over, system error, battery error, etc.	
	Ambient operating temperature, humidity	0~40ºC 10~95% (non-condensing)	
	Operating ambience	Free from corrosive gases. In particular, there shall be no significant powder dust.	
	Protection class	IP20	
	Weight	1.4kg	
	External dimensions	100mm (W) ×202.6mm (H) ×126mm (D)	

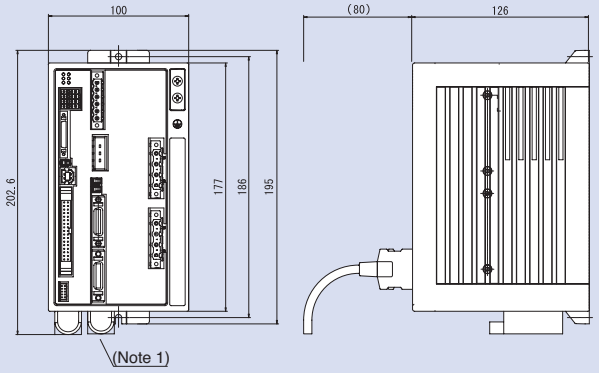
External Dimensions

SSEL 1-axis controller



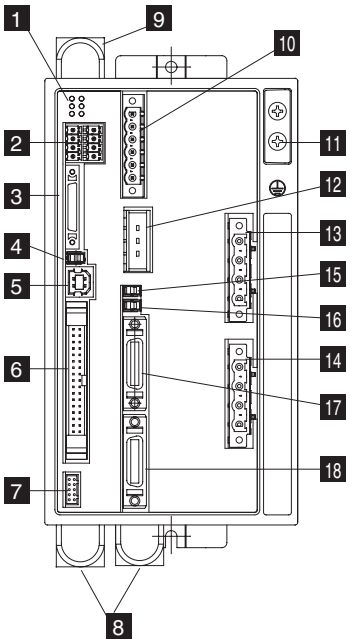
(Note 1) Absolute-data backup battery. This battery is not installed on an incremental-type controller.

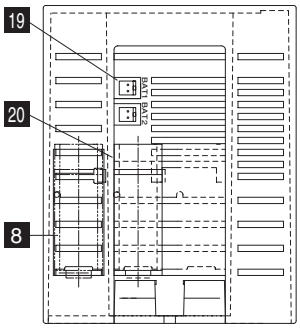
ASEL 2-axis controller

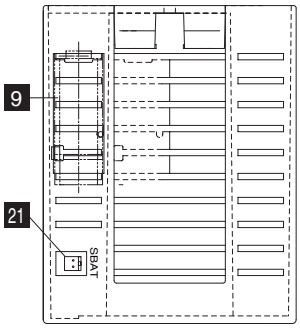


(Note 1) Absolute-data backup battery. This battery is not installed on an incremental-type controller.

Name of Each Part







1 Status indicator LEDs

These LEDs are used to indicate the operating condition of the controller.
Indication details are as follows:

PWR: This LED indicates that the controller is receiving power.
RDY: This LED indicates that the controller is ready to perform program operation.
ALM: This LED indicates that the controller is abnormal.
EMG: This LED indicates that an emergency stop is actuated and the drive source is cut off.
SV1: This LED indicates that the axis 1 actuator servo is on.
SV2: This LED indicates that the axis 2 actuator servo is on.

2 System I/O connector

A connector for the emergency stop input, enable input, brake power input, etc.

3 Teaching pendant (TP) connector

A half-pitch I/O 26-pin connector that connects a teaching pendant when the running mode is MANU. A special conversion cable is needed to connect a conventional D-sub, 25-pin connector.

4 Mode switch

This switch is used to specify the running mode of the controller.
The left position indicates the MANU (manual operation) mode, while the right position indicates the AUTO (automatic operation) mode.

Teaching can only be performed as manual operation, and automatic operation using external I/Os is not possible in the MANU mode.

5 USB connector

A connector for PC connection via USB. If the USB connector is connected, the TP connector is disabled and all communication inputs to the TP connector are cut off.

6 I/O connector

A connector for interface I/Os.
A 34-pin flat connector is used for the DIO (24 IN/8 OUT) interface.

The I/O power is also supplied to the controller through this connector (pins 1 and 34).

7 Panel unit connector

A connector for the panel unit (optional) that displays the controller status and error numbers.

8 Absolute-data backup battery

When an absolute-type axis is operated, this battery retains position data even after the power is cut off.

9 System-memory backup battery (optional)

This battery is needed if you wish to retain various data recorded in the SRAM of the controller even after the power is cut off. This battery is optional. Specify it if necessary.

10 Power-supply connector

An AC power-supply connector. Divided into the control power input and motor power input.

11 Grounding screw

A screw for protective grounding. Always connect this screw to ground.

12 External regenerative resistor connector

A connector for the regenerative resistor that must be connected when the built-in regenerative resistor alone does not offer sufficient capacity in high-acceleration/high-load operation, etc.

Whether or not an external regenerative resistor is necessary depends on the conditions of your specific application such as the axis configuration.

13 Motor connector for axis 1

Connect the motor cable of the axis 1 actuator.

14 Motor connector for axis 2

Connect the motor cable of the axis 2 actuator.

15 Brake switch for axis 1

This switch is used to release the axis brake. Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

16 Brake switch for axis 2

This switch is used to release the axis brake. Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

17 Encoder connector for axis 1

Connect the encoder cable of the axis 1 actuator.

18 Encoder connector for axis 2

Connect the encoder cable of the axis 2 actuator.

19 Absolute-data backup battery connector for axis 1

A connector for the battery that backs up absolute data when the actuator uses an absolute encoder. Secure installation of the battery is the customer's responsibility.

20 Absolute-data backup battery connector for axis 2

A connector for the battery that backs up absolute data when the actuator uses an absolute encoder. Secure installation of the battery is the customer's responsibility.

21 System-memory backup battery connector

A connector for the system-memory backup battery.

Option

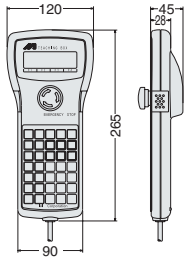
Teaching pendant

Features A teaching device providing program/position input function, test operation function, monitoring function, and more.

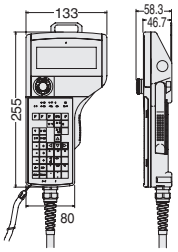
Model

Model	Description
IA-T-X-J	Standard type with connector conversion cable
IA-T-X	Standard type
IA-T-XD-J	Deadman switch type with connector conversion cable
IA-T-XD	Deadman switch type
IA-T-XA-J	ANSI type with connector conversion cable
IA-T-XA	ANSI type

IA-T-X/XD



IA-T-XA



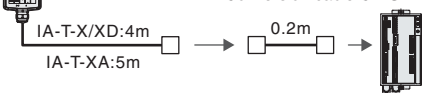
Specifications

Item	IA-T-X/XD	IA-T-XA
Ambient operating temperature, humidity	Temperature 0~40°C, Humidity 85% RH or below	
Operating ambience	Free from corrosive gases. In particular, there shall be no significant powder dust.	Protective structure conforming to IP54
Weight	Approx. 650g	Approx. 600g (excluding cable)
Cable length	4m	5m
Display	LCD with 20 characters x 4 lines	LCD with 32 characters x 8 lines

Configuration

NOTE
The SSEL controller is supported by version 1.30 or later (or 1.20 or later with the ANSI type).

Conversion cable:CB-SEL-SJ002

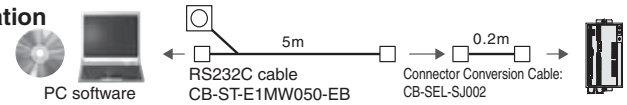


PC Software (Windows Only)

Features A startup support software program offering program/position input function, test operation function, monitoring function, and more. The functions needed for debugging have been enhanced to help reduce the startup time.

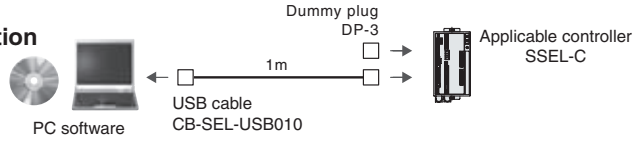
Model **IA-101-X-MW-J (with RS232C Cable + Connector Conversion Cable)**
IA-101-X-MW (with RS232C Cable)

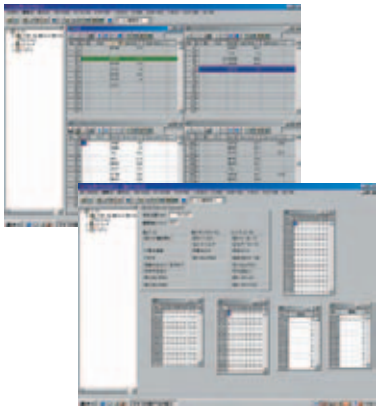
Configuration



Model **IA-101-X-USB (with USB Cable)**

Configuration





NOTE
The SSEL controller is supported by version 6.0.0.0 or later.

Regenerative Resistor Unit

Features This unit converts to heat the regenerative current produced when the motor decelerates. Use the table shown to the right to check the total wattage of actuators operated by the controller, and purchase one or more regenerative resistor units if required.

Model **REU-2** (SCON/SSEL)

Specifications

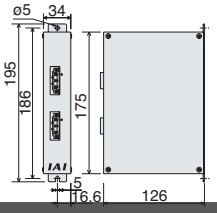
Weight	0.9kg
Built-in regenerative resistor	220Ω 80W
Unit-controller connection cable (supplied)	CB-SC-REU010 (SSEL)

Guide for Determining Necessary Number of Units

	Horizontal	Vertical
0 unit	~800W	~200W
1 unit		~600W
2 units		~800W

* More regenerative resistor units than the numbers specified above may be required depending on the operating conditions.

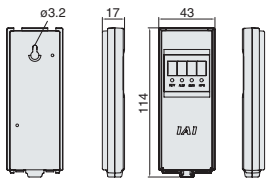
External Dimensions



Panel Unit

Features A display for checking controller error codes and active program numbers.

Model **PU-1(Cable Length 3m)**



Absolute-Data Backup Battery

Features This battery backs up absolute data when an absolute-type actuator is operated. Same as the system-memory backup battery.

Model **AB-5**

System-Memory Backup Battery

Features If your programs use global flags, etc., you need this battery to retain data even after the power is turned off.

Model **AB-5-CS (with Case)**
AB-5 (Battery Only)

Options

Dummy plug

Features When connecting your SSEL controller to a PC using a USB cable, install this plug on the teaching port to cut off the enable circuit. (This plug comes with the PC software IA-101-X-USB.)

Model **DP-3**

USB cable

Features Use this cable to connect your controller with USB port to a PC.
If your controller has no USB port (XSEL), connect a RS232C cable to a USB cable via a USB conversion adapter and connect the USB cable to the USB port on the PC.
(Refer to the PC software IA-101-X-USBMW.)

Model **CB-SEL-USB010** (Cable Length 1m)

Connector conversion cable

Features This conversion cable is used to connect a D-sub, 25-pin connector for teaching pendant or PC software to the teaching connector (half-pitch) on the ASEL controller.

Model **CB-SEL-SJ002** (Cable Length 0.2m)

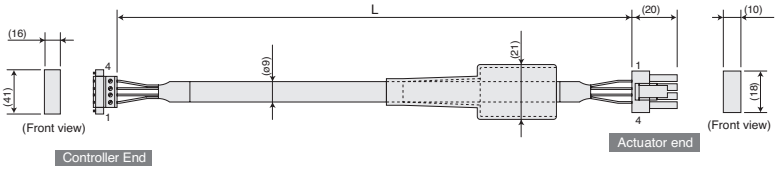
Spare Parts

Should you require spare parts after the purchase of your product for replacing the original cables, etc., refer to the model names specified below.

Motor Cable/ Motor Robot Cable

Model CB-RCC-MA□□□ / CB-RCC-MA□□□-RB

* □□□ indicates the cable length (L). Lengths up to 30 m can be specified.
Example) 080 = 8 m



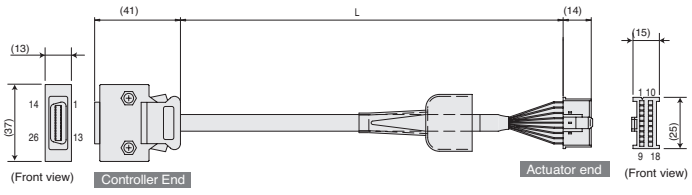
Wire	Color	Signal	No.
0.75sq	Green	PE	1
	Red	U	2
	White	V	3
	Black	W	4

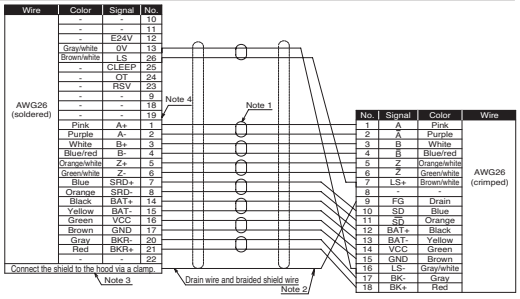
No.	Signal	Color	Wire
1	U	Red	0.75sq (crimped)
2	V	White	
3	W	Black	
4	PE	Green	

Encoder Cable/ Encoder Robot Cable

Model CB-RCS2-PA□□□ / CB-X2-PA□□□

* □□□ indicates the cable length (L). Lengths up to 30 m can be specified.
Example) 080 = 8 m





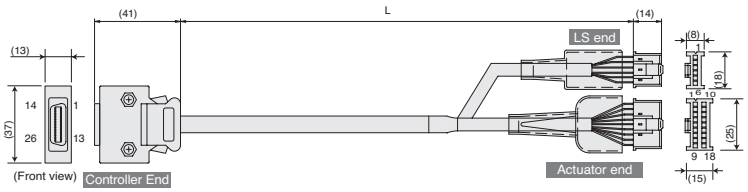
Wire	Color	Signal	No.
AWG26 (soldered)	-	-	10
	-	-	11
	-	E24V	12
	Gray/white	0V	13
	Brown/white	LS	26
	-	CLEEP	25
	-	OT	24
	-	RSV	23
	-	-	9
	-	-	18
	-	-	19
	Pink	A+	1
	Purple	A-	2
	White	B+	3
	Blue/red	B-	4
	Orange/white	Z+	5
	Green/white	Z-	6
	Blue	SRD+	7
	Orange	SRD-	8
	Black	BAT+	14
	Yellow	BAT-	15
	Green	VCC	16
	Brown	GND	17
	Gray	BKR-	20
	Red	BKR+	21
	-	-	22

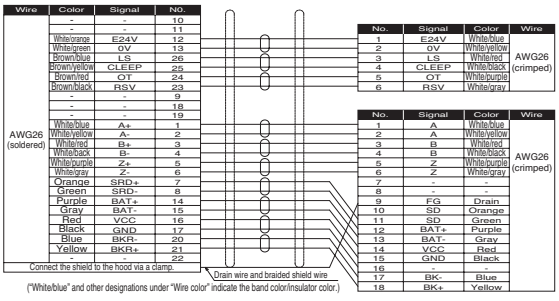
No.	Signal	Color	Wire
1	A	Pink	AWG26 (crimped)
2	A	Purple	
3	B	White	
4	B	Blue/red	
5	Z	Orange/white	
6	Z	Green/white	
7	LS+	Brown/white	
8	-	-	
9	FG	Drain	
10	SD	Blue	
11	SD	Orange	
12	BAT+	Black	
13	BAT-	Yellow	
14	VCC	Green	
15	GND	Brown	
16	LS-	Gray/white	
17	BK-	Gray	
18	BK+	Red	

Encoder Cable/ Encoder Robot Cable for RCS2-RT6/RT6R/RT7R

Model CB-RCS2-PLA□□□ / CB-X2-PLA□□□

* □□□ indicates the cable length (L). Lengths up to 30 m can be specified.
Example) 080 = 8 m





Wire	Color	Signal	No.
AWG26 (soldered)	-	-	10
	-	-	11
	White/orange	E24V	12
	White/green	0V	13
	Brown/blue	LS	26
	Brown/yellow	CLEEP	25
	Brown/red	OT	24
	Brown/black	RSV	23
	-	-	9
	-	-	18
	-	-	19
	White/blue	A+	1
	White/yellow	A-	2
	White/red	B+	3
	White/black	B-	4
	White/purple	Z+	5
	White/gray	Z-	6
	Orange	SRD+	7
	Green	SRD-	8
	Purple	BAT+	14
	Gray	BAT-	15
	Red	VCC	16
	Black	GND	17
	Blue	BKR-	20
	Yellow	BKR+	21
	-	-	22

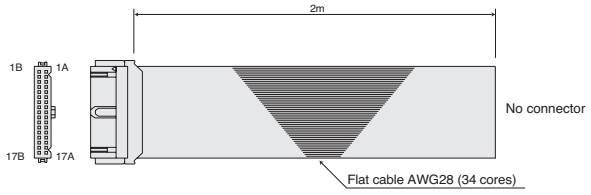
No.	Signal	Color	Wire
1	E24V	White/blue	AWG26 (crimped)
2	0V	White/yellow	
3	LS	White/red	
4	CLEEP	White/black	
5	OT	White/purple	
6	RSV	White/gray	

No.	Signal	Color	Wire
1	A	White/blue	AWG26 (crimped)
2	A	White/yellow	
3	B	White/red	
4	B	White/black	
5	Z	White/purple	
6	Z	White/gray	
7	-	-	
8	-	-	
9	FG	Drain	
10	SD	Orange	
11	SD	Green	
12	BAT+	Purple	
13	BAT-	Gray	
14	VCC	Red	
15	GND	Black	
16	-	-	
17	BK-	Blue	
18	BK+	Yellow	

I/O Flat Cable (SSEL Types)

Model CB-DS-PIO□□□

* □□□ indicates the cable length (L). Lengths up to 10 m can be specified.
Example) 080 = 8 m



No.	Color	Wire	No.	Color	Wire
1A	Brown1	Flat cable pressure -welded	9B	Gray2	Flat cable pressure -welded
1B	Red1		10A	White2	
2A	Orange1		10B	Black2	
2B	Yellow1		11A	Brown-3	
3A	Green1		11B	Red3	
3B	Blue1		12A	Orange3	
4A	Purple1		12B	Yellow3	
4B	Gray1		13A	Green3	
5A	White1		13B	Blue3	
5B	Black1		14A	Purple3	
6A	Brown-2		14B	Gray3	
6B	Red2		15A	White3	
7A	Orange2		15B	Black3	
7B	Yellow2		16A	Brown-4	
8A	Green2		16B	Red4	
8B	Blue2		17A	Orange4	
9A	Purple2		17B	Yellow4	